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ABSTRACT

This report shows that 30 years after the enactment of the federal fair housing law and despite favorable circumstances, housing markets in the Boston metropolitan area remain strongly segregated. The report is based on Home Mortgage Disclosure Act (HMDA) data and census data. The HMDA data provide information about the race, ethnicity, income, and census tract location of nearly all home purchases involving a mortgage loan nationwide. The report covers the Boston Primary Metropolitan Statistical Area and uses data from the years 1993-98. Data analysis indicates that African American and Hispanic homebuyers are making inroads into the housing markets of towns and cities surrounding Boston, but these buyers are concentrated in a limited number of communities and segregated from European American buyers. The report notes the virtual absence of African American and Latino residents in many of the communities where real estate values are increasing most rapidly, illustrating how minority households remain largely isolated from many of the fastest growing job markets. People of different incomes are buying in different communities outside of Boston. The report draws links between this segregation and poorer schools with fewer resources to offer the minority children who attend them. (Contains 22 tables.) (SM)

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THE CIVIL RIGHTS PROJECT
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Segregation in the Boston Metropolitan Area at the end of the 20th Century

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February 2000

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Forward

Gary Orfield

The Civil Rights Project at Harvard University is committed to conducting and commissioning research which sheds light upon the changing patterns of race relations within the United States. We are convinced that housing segregation and housing discrimination in metropolitan areas, where four out of every five Americans live, are among the most urgent problems facing minorities today. For ten years, analysts have been using 1990 Census data to describe the nation's racial housing patterns; but that data is now a decade out of date.

The average household in the United States moves every six years. This means that the typical family has moved more than 1.5 times since the Census was collected. During this time, there have been vast demographic changes within our nation's population. Recent data from the Census Bureau shows, for example, that in the second half of the 1990s, the Latino population grew far more rapidly than the white population. In Massachusetts, according to this data, the black population grew 21% and Latinos increased 31% between 1990 and 1998, while there was no increase in the white population. If these patterns continue, the greater Boston metropolitan area will soon house a much larger minority population than it does today. The ability of these growing non-white communities to enter into the educational, social and economic mainstream will become increasingly crucial to the future vitality of the region.

There is a great debate in the U.S. today about whether or not our history of discrimination and segregation has been cured by the enactment of civil rights laws and the enforcement of court decisions. Many recent decisions in our federal courts have assumed that discrimination has been resolved. For example, the Supreme Court has authorized the return to segregated neighborhood schools. Federal courts, in some decisions such as the one rendered last year in regards to the Boston Latin School, are prohibiting school boards from implementing even voluntary policies to maintain integration. The University of Massachusetts is one of several major state universities to reverse its affirmative admissions policies. These decisions are based on the premise that there now exists an equal playing field for minorities in our communities.

If this premise was accurate, then race would no longer play a role in where people chose to live. We would expect that the segregation in the greater Boston housing market would be declining rapidly. This is particularly true because, when compared to other large metropolitan areas, Boston has a very small percentage of black and Hispanic families, many of whom are middle class. Five out of six homebuyers are white. In addition, surveys show that few of the region's minority families prefer to live in segregated communities. Yet, this is not the case. This study and other research show that economic differences cannot explain the highly segregated pattern of housing choices because serious racial segregation continues to exist within each economic group.

Homeownership has always been central to the realization of the American dream. The government offers massive tax benefits to those who own rather than rent their homes. Homeownership creates family wealth and determines access to education in communities lacking affordable rental housing. Black and Latino families lag far behind whites in

homeownership and are grossly underrepresented in most newer suburban communities. Nationally, the home buying market is changing substantially to reflect the dramatic impacts of immigration. The home buying market in metropolitan Boston, however, remains overwhelmingly white, in stark contrast to cities with much larger percentages of minorities. In this market, it would seem relatively easy to accommodate the small minority housing demand on a non-segregated basis.

This report shows however that, 30 years after the enactment of the federal fair housing law and despite these favorable circumstances, housing markets remain strongly segregated. And it draws the links between that segregation and poorer schools, with fewer resources to offer the black and Latino children who attend them. The handful of districts where minorities are obtaining significant numbers of homes are not among the higher achieving systems. It also notes the virtual absence of black and Latino residents in many of the communities where real estate values are increasing most rapidly. It illustrates how minority households remain largely isolated from many of the fastest growing job markets.

The fragmentation of the Boston area into more than 120 independent towns and school districts, the concentration of affordable rental housing in limited sectors, and the larger percentage of white students in non-public schools within Boston, all combine to make the education picture even grimmer than the housing story. Although the city of Boston has a predominantly white home purchase market and substantial gentrification, five of six children in the public schools are non-white and the school population is overwhelmingly impoverished, with low achievement levels. With the shutdown of minority access to Boston Latin School and the termination of the city's desegregation plan, racial and class isolation in the city is likely to become even more extreme. Massachusetts was one of the states with the most rapidly increasing school segregation in our 1999 national report, "Resegregation in American Schools." The lawsuit now under way against Lynn could lead to an order by the court prohibiting even the limited desegregation strategies now employed.

Although the state's "Anti-Snob Zoning" law has helped to produce thousands of units of affordable housing in various area communities, these have not been effectively marketed to minority families. Thus the law has not made a significant impact on patterns of residential and school segregation. Boston has been the focus of intense litigation over segregation of public housing and there has been a bitter and lengthy battle to enforce those changes. The Boston area has also been the focal point for some of the most important studies showing the severity of discrimination in the mortgage lending market, carried out by the Federal Reserve Bank.

This study underscores the urgent need to develop new initiatives in housing policy, in testing and enforcement of the fair housing laws, and to provide better information to minority families interested in exploring a broader range of housing options. We need to understand better the causes of the patterns revealed in this report. We should also think about how to pry open the housing market more effectively to the growing numbers of families and individuals who are hindered not only by discrimination, but by the extraordinary cost of real estate in the region. Boston was one of the last major cities to open up a fair housing center two years ago, and its work is desperately needed.

An ongoing focus on housing patterns must be a central tenet of contemporary civil rights efforts. Housing segregation, reinforced by municipal and educational separation and the migration of minority families into neighborhoods far removed from suburban growth centers, is exacerbating racial and ethnic inequalities. Guy Stuart's study clearly shows that, far from easing up, these patterns may well be intensifying. If we are to halt these regressive trends, we need to develop more powerful and effective anti-discrimination policies. We also must initiate planning that recognizes and provides for the diversity of the metropolitan population.

This study reveals the scope of the problem. We hope that it will be instrumental in focusing attention on the mechanisms and leadership needed to make real inroads, so that all groups can benefit from the opportunities available within our communities.

Executive Summary

Throughout the United States metropolitan areas are undergoing considerable changes as minorities leave central cities and buy homes in suburbs. The Boston metropolitan area is no different. This report shows that African-American and Hispanic homebuyers are making inroads into the housing markets of towns and cities surrounding Boston. But it also shows that these buyers are concentrated in a limited number of communities: they are segregated from European-American homebuyers. In addition, the report shows that people of different incomes are buying in different communities outside of Boston -- there is income segregation. Specifically, the findings of the report are the following:

- In the Boston metropolitan area over 40% of African-American homebuyers, 60% of Hispanic homebuyers and 90% of European-American homebuyers bought homes in cities and towns outside of Boston in the period 1993 to 1998;
- Almost half of the purchases made by African-American and Hispanic homebuyers outside of Boston were concentrated in seven (7) communities out of a total of 126 communities;
- To achieve racial and ethnic integration with European-American homebuyers, over 50% of African-American and Hispanic homebuyers would have had to have bought a home in a different city or town in the 1993 to 1998 period;
- To achieve income integration between low-income and very high-income European-American buyers, almost 50% of low-income buyers would have had to have bought a home in a different city or town in the 1993 to 1998 period;
- In the city of Boston, the market share of buyers earning more than the metropolitan area median income has increased from 40% to 50% in the 1993 to 1998 period;
- Asian-American homebuyers are experiencing segregation, but to a lesser extent than African-American and Hispanic buyers;

These findings are disturbing because they indicate that despite the progress that disdavantaged minorities have made in achieving homeownership outside of Boston, there is a danger that the benefits of such ownership may not accrue to them. In particular, this report raises concerns about the potential for the emergence of highly segregated schools across the metropolitan area. Furthermore, the finding of income segregation provides evidence of the persistence of a patchwork of "have" and "have not" communities outside of Boston that affect the opportunities available to a large number of lower-income families. But the news is not all bad. Exclusive, high-income, European-American communities have not excluded all minority and low-income homebuyers. Their presence throughout the metropolitan area is a fact of life. The state, local governments and the real estate industry can provide the leadership necessary to ensure that pernicious patterns of segregation do not become entrenched in the first decade of this new century.

The report is based on Home Mortgage Disclosure Act (HMDA) data and census data. The HMDA data provide information about the race, ethnicity, income, and census tract location of nearly all home purchases involving a mortgage loan across the nation. The report covers the Boston Primary Metropolitan Statistical Area (PMSA). The data are drawn from the years 1993 through 1998.

Introduction

Metropolitan areas across the country are undergoing substantial changes as minorities move out of central cities and into the suburbs. This report documents this process for the Boston metropolitan area and shows that, despite their small numbers, minority home buyers are finding themselves concentrated in a limited number of communities. Outside of Boston, almost half of all African-American and Hispanic buyers (47.95%) are concentrated in seven (7) cities and towns where, combined, they made more than 10% of the home purchases in the period from 1993 to 1998. In contrast, there are 94 cities and towns out of 126 where African-American and Hispanic home buyers made up less than 2% of the buyers. Overall, African-American and Hispanic buyers made 3.35% of the purchases outside of Boston in the 1993 to 1998 period.

Table 1

Cities and Towns Outside Boston with 10% or more Minority Home Purchases, 1993 to 1998

	African-American and Hispanic combined		Total Purchases (where race known)
Towns	%	#	
Chelsea city	43.64%	525	1,203
Randolph town	32.31%	790	2,445
Everett city	15.95%	232	1,455
Lynn city	15.59%	699	4,483
Somerville city	14.36%	352	2,451
Milton town	14.01%	281	2,005
Malden city	13.06%	365	2,795
Total of towns with more than 10% minorities*		**3,244**	**16,837**
% of total purchases in towns outside Boston		47.95%	8.36%
Total of towns outside Boston		**6,765**	**201,377**

*African-American and Hispanic only

Source: FFIEC, 1993 - 1998; Author's calculations

What this table, and the more detailed analysis in the remainder of this report show, is that as the small percentage of home buyers who are African-American and Hispanic buy homes in the suburbs, they are doing so in a segregated manner. This raises important questions about the future of the metropolitan area. Are we going to replicate the racial segregation that has marred Boston's history for so long? In the face of segregation, how should government resources, especially educational resources, be distributed? What can we do to promote greater integration?

This report also shows the extent to which home buyers in the metropolitan area are isolated from people of different incomes. If we look only at European-Americans, home buyers earning $36,000 or less (in 1998 dollars) made 9.4% of the home purchases in cities and towns outside Boston. There were 40 towns where more than 10% of the purchases were by people earning $36,000 or less, and 60% of their purchases were concentrated in these towns. In contrast, 14% of the purchases made by European-Americans earning over $90,000 were made in these 40

towns.[1]

About the Boston Primary Metropolitan Statistical Area

This study uses the Boston Primary Metropolitan Statistical Area (PMSA) as its definition for the Boston metropolitan area. The area covers all of Suffolk County and most of Middlesex, Essex, Plymouth, Bristol, Norfolk and Worcester counties. It stretches up and down the North and South Shores and as far west as Malborough, just west of Framingham (see maps). Technically the PMSA includes some towns in New Hampshire, which have been excluded from this analysis.[2]

In 1990 the population of the area was 3,219,893. European-Americans constituted 86.32% of the population, African-Americans and Hispanics combined constituted just over 10% of the population, and Asian-Americans were 2.97% of the population (see Table 2).

Table 2

Distribution of Population by Race/Ethnicity
Boston Metropolitan Area, 1990

Cities and Towns Outside Boston

Asian		*African-American*		*Hispanic*		*European-American*		*Other*		**Total**
#	%	#	%	#	%	#	%	#	%	
65,615	2.48%	61,230	2.31%	71,324	2.69%	2,441,109	92.20%	8,258	0.31%	**2,647,536**
68.60%		30.88%		54.51%		87.82%		53.04%		**82.22%**

City of Boston

Asian		*African-American*		*Hispanic*		*European-American*		*Other*		**Total**
#	%	#	%	#	%	#	%	#	%	
30,039	5.25%	137,060	23.95%	59,520	10.40%	338,426	59.13%	7,312	1.28%	**572,357**
31.40%		69.12%		45.49%		12.18%		46.96%		**17.78%**

Metropolitan Area

Asian		*African-American*		*Hispanic*		*European-American*		*Other**		**Total**
#	%	#	%	#	%	#	%	#	%	
95,654	2.97%	198,290	6.16%	130,844	4.06%	2,779,535	86.32%	15,570	0.48%	**3,219,893**
100.00%		100.00%		100.00%		100.00%		100.00%		**100.00%**

* "Other" includes Non-hispanic Native Americans and other races.

Source: U.S. Census Bureau, 1990

[1] These numbers are likely to be an underestimate of the extent of income segregation because the income data are those that the buyer reports in order to get a mortgage. Many buyers who indicate that they have low incomes may simply be reporting the amount of income necessary to secure a mortgage, which means that there are a number of people who do not have low incomes but show up as having low incomes in the data. As a result, there are some families that show up as low income in the data but really have considerable incomes and/or wealth that allow them to buy a home in a high-priced community. Short of fraud on the part of buyers, there is very little chance for the data to exaggerate the incomes of buyers -- those who report having high incomes have at least the income they report.

[2] More details on the definition of the Boston Primary Metropolitan Statistical Area can be found in the methodological notes at the end of this report.

Boston's share of the population was 17.78%, and, though it was home to many more minorities than the surrounding cities and towns, 59.13% of its population was European-American.

There were 689,935 owner occupied housing units in the Boston metropolitan area in 1990. Of these almost 95% were owned by European-Americans; African-Americans and Hispanics owned just under 3.5% of the owner occupied units, and Asian-Americans owned just over 1.5% of the units (see Table 3). Boston had just over 10% of the owner occupied units, lower than its share of population, which reflects its larger rental market.

Table 3

Distribution of Owner-Occupied Housing Units by Race/Ethnicity
Boston Metropolitan Area, 1990

Cities and Towns Outside Boston

Asian		*African-American*		*Hispanic*		*European-American*		*Other*		**Total**
#	%	#	%	#	%	#	%	#	%	
8,792	1.42%	5,769	0.93%	4,758	0.77%	598,838	96.68%	1,234	0.20%	**619,391**
82.64%		34.19%		70.17%		91.58%		69.36%		**89.78%**

Boston

Asian		*African-American*		*Hispanic*		*European-American*		*Other*		**Total**
#	%	#	%	#	%	#	%	#	%	
1,847	2.62%	11,105	15.74%	2,023	2.87%	55,024	78.00%	545	0.77%	**70,544**
17.36%		65.81%		29.83%		8.42%		30.64%		**10.22%**

Metropolitan Area

Asian		*African-American*		*Hispanic*		*European-American*		*Other**		**Total**
#	%	#	%	#	%	#	%	#	%	
10,639	1.54%	16,874	2.45%	6,781	0.98%	653,862	94.77%	1,779	0.26%	**689,935**
100.00%		100.00%		100.00%		100.00%		100.00%		**100.00%**

* "Other" includes Non-hispanic Native Americans and other races.

Source: U.S. Census Bureau, 1990

Who is buying where

Metropolitan overview

Under the Home Mortgage Disclosure Act (HMDA) lenders report the race, income, and census tract location (and other information) of all applicants for home mortgage loans. An analysis of the applications that lenders approved for the purchase of a home which the applicant said they would occupy provides information about the race, income, and census tract location of home buyers. The methodological notes at the end of this report provide details on the definitions of the race/ethnicity and income categories used in this report.

From the beginning of 1993 to the end of 1998 there were 238,414 home purchases made in the Boston Primary Metropolitan Statistical Area (PMSA) that were recorded in the HMDA data. The race and income of the purchasers were recorded in 229,658 and 234,688 of the records respectively. Just over 87% of purchases were made by European-Americans, 3.87% were made by African-Americans, 3.69% by Asian-Americans and 2.21% by Hispanics. The central city of

Boston accounted for 12.31% of the purchasing activity (see Table 4).

Table 4

Distribution of Home Purchases by Race and City Location
Boston Metropolitan Area, 1993 to 1998

Cities and Towns Outside Boston

Asian		*African-American*		*Hispanic*		*European-American*		*Other***		**Total**
#	%	#	%	#	%	#	%	#	%	
7,007	3.48%	3,678	1.83%	3,087	1.53%	181,684	90.22%	5,921	2.94%	**201,377**
82.67%		41.35%		60.94%		90.77%		83.75%		**87.69%**

City of Boston

Asian		*African-American*		*Hispanic*		*European-American*		*Other***		**Total**
#	%	#	%	#	%	#	%	#	%	
1,469	5.19%	5,216	18.44%	1,979	7.00%	18,468	65.30%	1,149	4.06%	**28,281**
17.33%		58.65%		39.06%		9.23%		16.25%		**12.31%**

Metropolitan Area

Asian		*African-American*		*Hispanic*		*European-American*		*Other***		**Total**
#	%	#	%	#	%	#	%	#	%	
8,476	3.69%	8,894	3.87%	5,066	2.21%	200,152	87.15%	7,070	3.08%	**229,658**
100.00%		100.00%		100.00%		100.00%		100.00%		**100.00%**

* Total records includes all purchases, including those where race and ethnicity are not recorded.
Total includes those whose race was coded as "other" or as a mixed-race couple.
Percentages for each race/ethnicity are in terms of all purchases where the race/ethnicity of the buyer is known and therefore the denominator is the Total.
**Other includes Native Americans, Others and Mixed-race applications

Source: FFIEC, 1993 - 1998; Author's Calculations

Comparing Table 4 with Table 3 it is clear that minorities have gained a greater foothold in the Boston housing market during the mid-'90s than they had before. African-Americans owned 2.45% of the owner occupied housing units in 1990, but they made 3.87% of the home purchases in the 1993 to 1998 period. Hispanics owned less than 1% of the units in 1990, but made over 2% of the purchases. And these gains were made both in Boston itself and in the cities and towns around it. Despite these gains European-Americans still dominate the home buying market because of their sheer population numbers.

By classifying the incomes of buyers into six (6) categories based on the median income for the metropolitan area in each year we can see the distribution of buyers by income over the whole period. People earning very high incomes, over one and a half times the median income ($90,000 a year in 1998) made 30% of the home purchases in the 1993 to 1998 period; in contrast people earning low incomes, 60% of the median or less ($36,000 or less in 1998) made just under 11% of the purchases (see Table 5). Despite the fact that lower income buyers had a greater share of the City of Boston housing market than they did of the metropolitan area as a whole, over 75% of them bought beyond the city's boundaries. In other words, as this report details, cities and towns outside of Boston are not, by any means, the sole domain of upper-income buyers or even of middle-income buyers, they are also home to many lower income buyers.

Looking more closely at Boston itself, though over 90% of very high income buyers bought homes outside of Boston, they were a substantial presence in the city: there were more very high income buyers (6,541) in the city than low income buyers (5,911) in the 1993 to 1998 period (see

Table 5).

Table 5

Distribution of Owner-Occupied Housing Units by Income and Location
Boston Metropolitan Area, 1990

Cities and Towns Outside Boston

Low		*Moderate*		*Middle*		*Upper-Middle*		*Upper*		*Very high*		Total
#	%	#	%	#	%	#	%	#	%	#	%	
19,333	9.40%	28,714	13.96%	32,182	15.65%	28,606	13.91%	32,727	15.91%	64,106	31.17%	**205,668**
76.58%		83.32%		87.84%		90.14%		91.01%		90.74%		**87.63%**

Boston

Low		*Moderate*		*Middle*		*Upper-Middle*		*Upper*		*Very high*		Total
#	%	#	%	#	%	#	%			#	%	
5,911	2.62%	5,748	15.74%	4,457	2.87%	3,130	78.00%	3,233	11.14%	6,541	22.54%	**29,020**
23.42%		16.68%		12.16%		9.86%		8.99%		9.26%		**12.37%**

Metropolitan Area

Low		*Moderate*		*Middle*		*Upper-Middle*		*Upper*		*Very high*		Total
#	%	#	%	#	%	#	%			#	%	
25,244	10.76%	34,462	14.68%	36,639	15.61%	31,736	13.52%	35,960	15.32%	70,647	30.10%	**234,688**
100.00%		100.00%		100.00%		100.00%		100.00%		100.00%		**100.00%**

* "Other" includes Non-hispanic Native Americans and other races.
Totals are not the same as in Table 4 because there are a different number of records with missing income data.

Source: U.S. Census Bureau, 1990

In fact, the trend in the city over the past few years has been towards the more high income buyers: in 1993 60% of the home purchases were made by buyers reporting incomes equal to or less than the metropolitan area median ($60,000 or less in 1998); in 1998 they made 50% of the purchases. The greatest gains have been among the very high income buyers who have risen from 21% to 26% of the share of home buyers in the city (see Table 6).

Table 6

Percent share of Boston's Home Purchase Market, by Year and Income
1993 to 1998

	Low	*Moderate*	*Middle*	**Total less than median**	*Upper-Middle*	*Upper*	*Very high*	**Total greater than median**
1993	21%	21%	18%	**60%**	10%	10%	21%	**40%**
1994	20%	22%	16%	58%	10%	11%	21%	42%
1995	22%	21%	15%	59%	11%	10%	21%	41%
1996	22%	20%	14%	56%	10%	11%	23%	44%
1997	20%	19%	15%	54%	11%	12%	23%	46%
1998	18%	17%	15%	**50%**	12%	12%	26%	**50%**

Source: FFIEC, 1993 - 1998; Author's calculations

City and town details

As noted above, the purchasing data are organized by census tract. To generate a clear idea of who is buying where census tracts are not very helpful because they have very little meaning in the everyday lives of Americans. Though many tract boundaries have a social significance, we are not conscious of them as we go about our daily activities, or even as we look for a home to buy. The boundaries about which many home buyers are extremely conscious are those of the

town or city in which they are buying, mostly because they determine, especially at the elementary level, the school district in which they will find themselves. In the Boston PMSA there are 127 cities and towns, and nearly all of them have their own elementary school district (see the definitions and technical notes for more details). Much of the analysis that follows will look at the data in terms of who is buying in which city and town as a way to highlight the impact that segregation has on the ordinary lives of people.

Though the HMDA data do not contain information about the town location of the purchase property, the boundaries of towns and cities and the boundaries of census tracts coincide very well. In the Boston metropolitan area there is only one census tract that clearly straddles the boundary between two towns, those being Hull and Hingham. Spatially the largest part of the tract is in Hingham and so the tract was assigned to that town. Table 7 lists the largest towns and cities in the Boston area by the number of owner-occupied housing units and the number of home purchasers. These, in turn, are divided into the cities and towns that have the greatest share of the home purchase market for each of the four major racial and ethnic groups featured in this analysis.

Table 7

Owner-Occupied Housing Units, 1990 Boston Metropolitan Area Top 20 Cities/Towns			**Home Purchases, 1993 to 1998 Boston Metropolitan Area Top 20 Cities/Towns**		
	#	% of total		#	% of total
Boston city	70,544	10.22%	Boston city	29,450	12.35%
Newton city	20,297	2.94%	Quincy city	5,518	2.31%
Quincy city	17,404	2.52%	Newton city	5,379	2.26%
Lynn city	14,577	2.11%	Plymouth town	4,727	1.98%
Weymouth town	13,764	1.99%	Cambridge city	4,638	1.95%
Framingham town	13,522	1.96%	Lynn city	4,597	1.93%
Medford city	12,465	1.81%	Framingham town	4,568	1.92%
Peabody city	12,351	1.79%	Brookline town	4,179	1.75%
Cambridge city	11,959	1.73%	Weymouth town	4,018	1.69%
Plymouth town	11,667	1.69%	Franklin town	3,855	1.62%
Taunton city	10,884	1.58%	Taunton city	3,402	1.43%
Arlington town	10,730	1.56%	Marlborough city	3,347	1.40%
Brookline town	10,500	1.52%	Medford city	3,236	1.36%
Waltham city	9,523	1.38%	Natick town	3,216	1.35%
Malden city	9,480	1.37%	Peabody city	3,204	1.34%
Somerville city	9,398	1.36%	Arlington town	3,179	1.33%
Braintree town	9,122	1.32%	Waltham city	3,010	1.26%
Beverly city	8,717	1.26%	Malden city	2,872	1.20%
Lexington town	8,627	1.25%	Beverly city	2,773	1.16%
Revere city	8,531	1.24%	Salem city	2,752	1.15%
All owner-occupied units	**689,935**		**All Purchases**	**238,414**	

Source: FFIEC 1993 - 1998, Author's Calculations; U.S. Census Bureau, 1990.

Table 8

Boston Metropolitan Area Home Purchases, 1993 to 1998
Top ten cities/towns by race and ethnicity
(% of all purchases within each group)

Asian-American		African-American		Hispanic		European-American	
Town		Town		Town		Town	
Boston city	17.33%	Boston city	58.65%	Boston city	39.07%	Boston city	9.23%
Quincy city	9.99%	Randolph town	7.97%	Chelsea city	9.12%	Plymouth town	2.22%
Newton city	5.00%	Lynn city	3.16%	Lynn city	8.25%	Newton city	2.20%
Malden city	4.61%	Milton town	2.89%	Framingham	4.11%	Quincy city	2.13%
Brookline town	4.16%	Malden city	2.73%	Somerville city	3.83%	Weymouth town	1.87%
Lynn city	3.70%	Cambridge city	2.00%	Revere city	3.28%	Cambridge city	1.83%
Lexington town	3.50%	Somerville city	1.78%	Malden city	2.41%	Framingham	1.83%
Cambridge city	3.37%	Medford city	1.42%	Everett city	2.33%	Franklin town	1.75%
Randolph town	3.09%	Everett city	1.28%	Waltham city	1.72%	Brookline town	1.69%
Framingham	2.73%	Stoughton town	1.26%	Randolph town	1.60%	Lynn city	1.66%
Total		Total		Total		Total	
Purchases	8,476	Purchases	8,894	Purchases	5,065	Purchases	200,152

Source: FFIEC, 1993 - 1998, Author's Calculations

Obviously these lists are driven by the relative size of each town or city -- the larger the city or town the greater share it will have of all the home buying market. This is clear from a comparison of the European-American list in Table 8 and the list in Table 7. Despite this "size effect" there are clear differences among the different groups as to where they are buying homes (Table 8). Only Boston and Lynn appear on every single list. Boston, due to its size, has the largest share of the market among all groups. African-Americans are the only group a majority of which are buying in Boston. But the other groups are not neglecting Boston. In fact, Boston's share of the market in every group, *except African-Americans*, is greater than its share of each group's housing units as of 1990 (see Table 3). For Asian-Americans and African-Americans there are clear second-place cities: Quincy and Randolph respectively. For Hispanics, Chelsea and Lynn are the most popular cities after Boston.

Tables 9-12 show the top ten cities and towns for each racial or ethnic group by income. Table 9 shows the ten cities where the largest number of Asian-American home buyers bought homes, expressed as a percent of all Asian-American home purchases within three different income groups, low- and moderate-income, middle-income, and upper-income. The table shows that upper income buyers are buying in towns such as Lexington, Newton, and Brookline, while low- and moderate-income buyers are buying in Quincy, Malden, and Lynn. Both income groups are buying in Boston, but it is more likely that a lower-income Asian-American will buy in Boston than will their higher-income counterpart.

Table 9

Top ten cities/towns by Income
Boston Metropolitan Area Home Purchases, 1993 to 1998
Asian-American Home Buyers

Low- and moderate-income		Middle-income		Upper-income	
Town	**Low/mod**	**Town**	**Middle**	**Town**	**Upper**
Boston city	26.90%	Boston city	16.47%	Newton city	8.86%
Quincy city	15.25%	Quincy city	11.35%	Boston city	8.83%
Malden city	7.66%	Malden city	5.38%	Lexington town	7.30%
Lynn city	7.07%	Randolph town	4.56%	Brookline town	5.43%
Randolph town	3.36%	Brookline town	3.97%	Acton town	4.26%
Cambridge city	3.32%	Newton city	3.92%	Cambridge city	4.13%
Somerville city	3.29%	Lynn city	3.54%	Quincy city	3.60%
Brookline town	3.15%	Waltham city	3.16%	Framingham town	3.13%
Medford city	2.69%	Framingham town	2.99%	Burlington town	2.47%
Framingham town	2.20%	Medford city	2.86%	Needham town	2.20%
All Purchases	**2,859**	**All Purchases**	**2,344**	**All Purchases**	**3,002**

Source: FFIEC, 1993 - 1998, Author's Calculations

Table 10 reinforces the fact that African-American buyers are concentrated in the city; only upper-income buyers in this group are buying predominantly outside of the city.

Table 10

Top ten cities/towns by Income
Boston Metropolitan Area Home Purchases, 1993 to 1998
African-American Home Buyers

Low- and moderate-income		Middle-income		Upper-income	
Town	**Low/mod**	**Town**	**Middle**	**Town**	**Upper**
Boston city	71.57%	Boston city	50.89%	Boston city	30.54%
Randolph town	4.77%	Randolph town	11.94%	Randolph town	11.22%
Lynn city	4.08%	Milton town	4.16%	Milton town	6.94%
Malden city	2.84%	Malden city	3.42%	Cambridge city	3.74%
Somerville city	1.63%	Lynn city	2.41%	Newton city	2.65%
Everett city	1.55%	Somerville city	2.41%	Stoughton town	2.65%
Cambridge city	1.51%	Medford city	2.06%	Sharon town	2.45%
Milton town	0.98%	Cambridge city	1.94%	Framingham town	2.11%
Chelsea city	0.94%	Stoughton town	1.91%	Medford city	1.97%
Medford city	0.88%	Framingham town	1.56%	Brookline town	1.77%
All Purchases	**4,783**	**All Purchases**	**2,572**	**All Purchases**	**1,470**

Source: FFIEC, 1993 - 1998, Author's Calculations

It is also clear that to some extent African-American buyers of different incomes are buying in

different communities: of the top nine (9) cities and towns surrounding Boston featured on the upper-income list, five (5) do not appear on the low-and moderate-income list of towns. Upper-income African-Americans are buying homes in Newton, Stoughton, Sharon, Framingham, and Brookline; while their lower-income counterparts are buying homes in Lynn, Malden, Somerville, Everett, and Chelsea. Notably there are two towns, Randolph and Milton, in which African-Americans of all incomes are buying.

Table 11 shows that upper-income Hispanic buyers are buying homes in Lexington, Newton, Brookline, and Cambridge. Their lower-income counterparts, though able to buy in Somerville and Framingham which appear on the upper-income list, are concentrating in Boston, Chelsea and Lynn .

Table 11

Top ten cities/towns by Income
Boston Metropolitan Area Home Purchases, 1993 to 1998
Hispanic Home Buyers

Low- and moderate-income		Middle-income		Upper-income	
Town	**Low-mod**	**Town**	**Middle**	**Town**	**Upper**
Boston city	44.74%	Boston city	32.83%	Boston city	24.81%
Chelsea city	12.14%	Lynn city	6.65%	Framingham town	3.70%
Lynn city	10.23%	Framingham town	6.01%	Somerville city	3.39%
Revere city	3.62%	Chelsea city	5.54%	Brookline town	3.24%
Somerville city	3.55%	Somerville city	4.91%	Newton city	3.24%
Framingham town	3.36%	Revere city	3.64%	Cambridge city	3.08%
Everett city	2.45%	Malden city	3.09%	Chelsea city	2.31%
Malden city	2.16%	Everett city	2.77%	Lynn city	2.31%
Salem city	1.78%	Waltham city	2.77%	Malden city	2.31%
Waltham city	1.36%	Randolph town	2.53%	Lexington town	2.16%
All Purchases	**3,098**	**All Purchases**	**1,264**	**All Purchases**	**649**

Source: FFIEC, 1993 - 1998, Author's Calculations

Finally, Table 12 shows that European-Americans are buying homes in different cities and towns depending on their incomes. The top 10 towns in which upper-income European-Americans are buying is almost completely different from those in which lower income European-Americans are buying. The former are buying in the wealthy western suburbs, while the latter are buying along the North and South Shores. Though there is this very clear contrast in the case of the European-American data, they are, as will be shown below, the the least segregated by income. Part of the explanation for this is the fact that though, at the extremes, the data show a high level of segregation, there is a large middle sector in which there is more income integration.

Table 12

Top ten cities/towns by Income
Boston Metropolitan Area Home Purchases, 1993 to 1998
European-American Home Buyers

Low- and moderate-income		Middle-income		Upper-income	
Town	**Low-mod**	**Town**	**Middle**	**Town**	**Upper**
Boston city	11.54%	Boston city	8.44%	Boston city	8.59%
Lynn city	3.97%	Plymouth town	2.97%	Newton city	3.48%
Plymouth town	3.53%	Quincy city	2.55%	Brookline town	2.21%
Quincy city	3.31%	Weymouth town	2.37%	Cambridge city	2.09%
Taunton city	3.09%	Framingham town	2.01%	Franklin town	1.98%
Weymouth town	2.97%	Taunton city	1.97%	Wellesley town	1.85%
Salem city	1.95%	Peabody city	1.92%	Framingham town	1.71%
Peabody city	1.89%	Franklin town	1.89%	Needham town	1.67%
Revere city	1.85%	Lynn city	1.78%	Arlington town	1.64%
Framingham town	1.79%	Medford city	1.70%	Lexington town	1.61%
All Purchases	**45,591**	**All Purchases**	**58,168**	**All Purchases**	**93,788**

Source: FFIEC, 1993 - 1998, Author's Calculations

These lists also reveal towns and cities where people of different races are buying. The wealthy towns of Brookline and Newton attract upper-income people of all races; Lynn is the most strikingly integrated town, other than Boston, in which lower-income home buyers are buying (though, as this report shows later on, it is segregated within its borders).

Who is buying with whom

Those familiar with the Boston metropolitan area should not find the description of "who is buying where" very surprising. The names are familiar, and the data fit the generalizations that people living in the area have developed over the years. Another way of looking at the data that is less familiar to most people, and sheds light on the nuances of segregation, is to look at "who is buying with whom?" This analysis will focus on the cities and towns outside of Boston because it is here where the majority of the home buying activity takes place and it is here where the socially significant school district boundaries divide people.

Table 13 shows the extent to which people of different races are buying homes in the market in which people of other races are also active in the 126 cities and towns outside of Boston. Looking at the shaded cells in the table we see that more than 70% of African-American buyers, Hispanic buyers and Asian-American buyers bought homes in communities where they were an above-average presence in the home buying market. African-Americans bought 1.83% of the homes in the 1993 to 1998 period in the cities and towns surrounding Boston. In 19 of those cities and towns they exceeded their average market share of 1.83%, and 73.16% of them bought homes in those 19 communities. In other words, 73.16% of African-American buyers are concentrated in 19 communities where they have an above-average market share. In the case of Hispanic buyers, 71.49% of buyers are concentrated in 17 communities where they have a market

share above their average share of 1.53%. Finally, though a larger percent of Asian-Americans buyers, 79.79%, are concentrated in communities where they have a market share above their average share of 3.47%, they are spread throughout 32 communities. This, as will be confirmed below using segregation indices, means that they are less segregated than African-Americans and Hispanics.

Table 13

Concentration of Buyers in Cities and Towns with an Above-Average Number of Buyers of Different Ethnicities Cities and Towns Outside Boston, 1993 to 1998

Type of City/Town, based on % of buyers, 1993 to 1998	African-American # and %	Hispanic # and %	Asian-American # and %	European-American # and %
Above-Average African-American Buyers (19 towns and cities)	**2,691** **73.16%**	2,122 68.74%	2,568 36.65%	36,043 19.84%
Above-Average Hispanic Buyers (17 towns and cities)	2,213 60.17%	**2,207** **71.49%**	2,440 34.82%	32,763 18.03%
Above-Average Asian-American Buyers (32 towns and cities)	2,537 68.98%	2,292 74.25%	**5,591** **79.79%**	62,869 34.60%
Above-Average European-American Buyers (99 towns and cities)	824 22.40%	734 23.78%	1,773 25.30%	**125,195** **68.91%**
Total for cities and towns outside Boston	3,678	3,087	7,007	181,684

Source: FFIEC, 1993 - 1998, Author's Calculations

Focusing now on the column on the far right of the table, we can see the extent to which European-Americans are buying in communities with an above-average minority presence. The data show that less than 20% of European-American buyers are buying in communities where African-Americans and Hispanics have an above-average presence in the market. In contrast, over 30% of them are buying in a community where Asian-Americans have an above-average presence. In other words, European-Americans are more likely to be buying homes in communities where there is an above-average number of Asian-American buyers than they are to be buying homes in communities with an above-average number of other minority buyers. It should also be noted that while African-American and Hispanics overlap considerably in the communities in which they are buying, there is less overlap between them and Asian-Americans. For example, 68.74% of Hispanic buyers are buying in the above average African-American markets while only 36.65% of Asian-Americans are doing so. And again, 60.17% of African-American buyers are buying in above-average Hispanic markets, while only 34.82% of Asian-American buyers are doing so.

Table 14 shows the extent to which things are changing in the cities and towns surrounding Boston. Among African-American buyers, 74.09% are buying in the 28 towns and cities in which they had an above-average ownership presence in 1990 (greater than 0.93% of owner-occupied units). Among Asian-American buyers, 68.85% are buying in the 41 towns and cities cities in which they had an above-average ownership presence in 1990 (greater than 1.42% of owner-occupied units). And Hispanic buyers, 70.31% are buying in the 42 towns and cities in which they had an above-average ownership presence in 1990 (greater than 0.77% of owner-occupied units).

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Table 14

Concentration of Home Buyers in Above-Average Ownership Cities and Towns of Different Ethnicities Cities and Towns Outside Boston, 1993 to 1998

Type of City/Town, based on % of owner-occupied housing units in 1990	African-American # and %	Hispanic # and %	Asian-American # and %	European-American # and %
Above-Average African-American Ownership (28 towns and cities)	2,725 74.09%	2,042 66.15%	3,329 47.51%	49,903 27.47%
Above-Average Hispanic Ownership (42 towns and cities)	2,311 62.83%	2,173 70.39%	3,129 44.66%	59,311 32.65%
Above-Average Asian-American Ownership (41 towns and cities)	1,977 53.75%	1,536 49.76%	4,824 68.85%	58,551 32.23%
Above-Average European-American Ownership (94 towns and cities)	920 25.01%	1,072 34.73%	2,236 31.91%	121,677 66.97%
Total for cities and towns outside Boston	3,678	3,087	7,007	181,684

Source: FFIEC, 1993 - 1998; U.S. Census Bureau, 1990

Though the data indicate that minorities are buying in communities where they already had a home ownership stake in 1990, they also show that many of them are buying in communities that were almost exclusively European-American in 1990. This is revealed in the penultimate row of the table, which shows the percent of each group that are buying in communities where European-Americans had an above average ownership presence in 1990 (owned over 96.68% of the owner-occupied housing units) : 25.01% of African-Americans, 34.73% of Hispanics and 31.91% of Asian-Americans are buying homes in such highly exclusive communities.

The maps in Figures 1, 2 and 3 at the end of this report provide a visual rendition of these data, with some added detail. Figure 1 shows the distribution of African-American and Hispanic buyers combined, and figures 2 and 3 show the distribution of Asian-American and European-American buyers for the period 1993 through 1998. The maps show the extent to which African-Americans and Hispanics are far more concentrated in a few communities than are Asian-Americans. But the news is not all bad, African-Americans and Hispanics had a small presence in almost all communities in the metropolitan area.

Note that the maps display these data by census tract, but also display the boundaries of each city and town within the PMSA. They show that in some cities and towns there are concentrations of minorities in particular census tracts, and that in other cities and towns there are very few minority buyers regardless of the part of the town in which you look. For example, both Boston and Lynn show clear patterns of segregation within their borders, while in the towns and cities along the North and South Shores nearly all the census tracts are over 95% European-American.

One lesson to be drawn from these data is that there are still many European-American communities in the Boston area that remain to some extent racially and ethnically isolated, despite the growing presence of minorities in the housing market. But the data also show that many once-exclusive communities are becoming the homes of a few minorities: **minorities in the cities and towns surrounding Boston are a fact of life.** Another lesson to be learned from these data is that the European-Americans buyers are being joined in the market largely by Asian-

Americans. Though Asian-Americans are buying in communities where they already had a presence, they are still buying in a market with European-Americans. Following from this, the third lesson from these data confirm what was stated above: African-American homebuyers are still largely confining their purchases, or are being confined to, the city of Boston. Beyond the city boundaries African-Americans and Hispanics are finding their way into a number of different towns and cities, but they are still mostly buying in those where they already had a presence and they are doing so in a market where European-Americans are heavily underrepresented.

Turning now to an analysis of who is buying with whom in terms of income, Tables 15 and 16 show the distribution of European-American buyers in different cities and towns outside Boston categorized in terms of whether they have an above-average share of households or buyers with low and moderate incomes, on the one hand, or very high incomes, on the other hand. The focus here is on European-American buyers alone so as not to confuse an income analysis with the effects of ethnicity, which is correlated with income. Table 15 shows the extent to which people of different incomes are buying in communities that, in 1990, had an above-average share of households with lower-incomes (less than $35,000) or an above-average share of households with very high incomes (more than $74,999). The first thing to note is that 65 communities outside of Boston have an above-average share of households with lower-incomes -- 47 of them have an above-average share of lower-income households but not an above-average share of very high income households and there are another 18 that have an above-average share of both lower-income and very high income households. This means that, in 1990, lower-income households were **not** concentrated in a few communities. Regardless of this, 60% of low- and moderate-income buyers bought homes in the 47 communities that had an above-average share of lower-income households (and a below-average share of very high income households) in 1990. Only 17.98% of low- and moderate-income buyers bought homes in the 56 communities with an above-average share of very high income households. This suggests that low- and moderate-income buyers are not fully able to access all the communities surrounding Boston in the mid-1990's. Looking at the market from the perspective of very high income buyers, Table 15 shows that almost 60% of very high income buyers bought in the 56 communities with an above-average share of very high income households, while 19.74% of them bought in the 47 communities with an above-average share of lower-income households.

Table 16 shows the distribution of European-American buyers of different incomes across communities that either have an above-average share of low- and moderate-income buyers or an above-average share of very high income buyers. The first thing to note is that there is only one community where there is both an above-average share of lower-income buyers and an above-average share of very high income buyers -- Rockport town which is excluded from the table. This suggests that these two income groups are buying in different communities. This is supported by the data in the table: 64.1% of low- and moderate-income buyers are buying in the 50 communities where such buyers have an above-average share of the market, but only just over one-fifth (20.78%) are buying in the 63 communities where very high income European-American buyers have an above-average share of the market.

Table 15

Concentration of European-American Buyers in Cities and Towns with an Above-Average Number of European-American Households of Different Incomes Cities and Towns Outside Boston, 1993 to 1998

Type of City/Town, based on % of European-American Households, 1990	Low-mod # and %	Middle # and %	Upper # and %	Very high # and %
Above-average % of households with incomes < $35,000 (47 cities and towns)	24,202 60.03%	25,262 47.47%	9,956 34.35%	11,121 19.74%
Above-average % of households with incomes > $74,999 (56 cities and towns)	7,278 17.98%	14,370 26.86%	11,242 38.54%	33,732 59.41%
Mixed (18 cities and towns)	6,567 16.22%	10,061 18.81%	5,773 19.79%	9,173 16.16%
Total European-American Buyers, 1993 to 1998	40,330	53,260	29,079	56,657

Low-mod = income of $48,000 or less in 1998 terms
Middle = income greater than $48,000 and less than or equal to $72,000 in 1998 terms
Upper = income greater than $72,000 and less than or equal to $90,000 in 1998 terms
Very high = income greater than $90,000 in 1998 terms

Mixed = have an above-average % of lower-income households and an above-average % of higher-income households

Source: FFIEC, 1993 - 1998, Author's calculations; U.S. Census Bureau, 1990

Table 16

Concentration of European-American Buyers in Cities and Towns with an Above-Average Number of European-American Buyers of Different Incomes Cities and Towns Outside Boston, 1993 to 1998

Type of City/Town, based on % of European-American Buyers, 1993 to 1998	Low-mod # and %	Middle # and %	Upper # and %	Very high # and %
Above-average % of low- and moderate-income buyers (50 cities and towns)	25,824 64.10%	27,252 51.32%	10,584 36.53%	10,411 18.47%
Above-average % of very high income buyers (63 cities and towns)	8,387 20.78%	15,604 29.23%	12,299 42.23%	37,889 66.81%
Total European-American Buyers, 1993 to 1998	40,330	53,260	29,079	56,657

Low-mod = income of $48,000 or less in 1998 terms
Middle = income greater than $48,000 and less than or equal to $72,000 in 1998 terms
Upper = income greater than $72,000 and less than or equal to $90,000 in 1998 terms
Very high = income greater than $90,000 in 1998 terms

There is one mixed community, with an above-average % of both low-mod and very high income buyers, Rockport town, which is not included in this table.

Source: FFIEC, 1993 - 1998, Author's calculations; U.S. Census Bureau, 1990

Looking at the market from the perspective of very high income buyers, almost two-thirds (66.81%) of very high income buyers are buying in the 63 communities where they have an above average share of the market, while only 18.47% of them are buying in the 50 communities where lower-income European-American buyers have an above-average share of the market.

These data show that there is at least some income segregation within the European-American community. Specifically, home buyers with incomes at or below $48,000 are buying in different communities from those with incomes above $90,000. The dissimilarity index analysis that follows in the next section provides more detailed and conclusive evidence as to the extent of income segregation, including its extent among minority groups.

Dissimilarity analysis

The meaning of dissimilarity and a guide to the tables

We now have a picture of who is buying where. The tables that make up this picture suggest both racial and income segregation. This section uses a measure called the dissimilarity index to assess the overall extent of the racial and income segregation in the Boston metropolitan area. The dissimilarity index measures the extent to which the proportions of two groups of homebuyers in any particular area, such as a census tract or town, are different from the proportions of those groups in the metropolitan area as a whole (or in any designated group of census tracts or towns). An index of 100 indicates complete segregation, and and index of zero indicates full integration. The practical interpretation of the index is that it measures the percentage of one of the groups' members that would have to move to a different census tract or town to generate a fully integrated result. For example, an index of 50 between two groups, A and B, indicates that 50% of either group A or group B would have to buy in different census tracts to reduce the index to zero. It is normal to assume that the smaller of the two groups, the minority group, will move because that involves the fewest number of people or households; this does not necessarily have to be the case.

Tables 17 through 21 provide a large number of indices comparing different groups of home buyers. Each table follows the same logic:

- The colum headings list the groups that form the basis of comparison. For example, in Table 17 the first column shows "African-/European-American" which means that the indices that are listed below it are comparisons between these two groups.
- The inner row headings list the sub-groups within each of the groups in the column headings that form the basis of comparison. Continuing with the African-/European-American example in Table 17, the rows show income-based sub-groups; the first index, 78.08, is the dissimilarity index of low-income African-Americans from low-income European-Americans. The last index in that first column of seven numbers is the index of dissimilarity of all African-Americans from all European-Americans, 71.79.
- The outer row headings that appear on some of the tables simply distinguish between different geographical areas. On the city/town analysis Boston does not appear separately in

these headings but it is included in the Metropolitan Area indices.

Census tract analysis

Though census tracts often lack social meaning, they are a good starting point for a dissimilarity analysis. Their large number, which in a descriptive analysis is a problem, does not pose any problems in a dissimilarity analysis because such an analysis reduces the data to a single result. In addition, the census tract delineation allows us to disaggregate data for large cities like Boston.

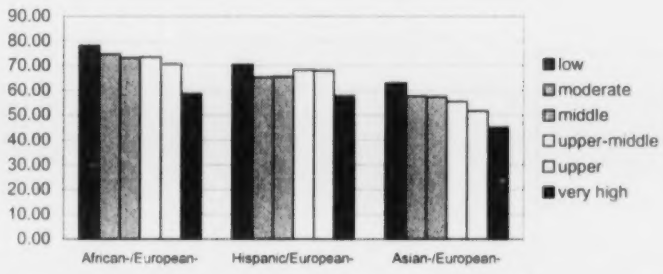
Table 17

Home Buyer Race/Ethnicity Segregation Indeces by Census Tract
Boston Metropolitan Area, 1993 - 1998

		Race/Ethnicity Segregation Indeces		
Location	Applicant income	African-/European-American	Hispanic/European-American	Asian-/European-American
Metropolitan Area	low	78.08	70.29	62.85
	moderate	74.53	65.27	57.71
	middle	73.13	65.48	57.45
	upper-middle	73.42	68.16	55.42
	upper	70.64	67.88	51.69
	very high	58.51	57.78	45.06
	ALL	71.79	64.40	48.28
Outside Boston	low	63.38	68.40	62.77
	moderate	64.85	62.32	58.06
	middle	64.81	62.82	56.84
	upper-middle	67.73	67.03	55.00
	upper	65.86	66.63	51.62
	very high	56.02	58.17	44.85
	ALL	55.97	58.31	47.89
Boston	low	71.76	59.94	59.60
	moderate	71.69	61.65	51.00
	middle	74.61	66.27	55.57
	upper-middle	76.67	68.50	54.25
	upper	78.73	70.17	48.35
	very high	66.51	51.30	46.31
	ALL	77.08	66.84	49.09

Source: FFIEC, 1993 - 1998, Author's Calculations

Race/Ethnicity Segregation Indices
Boston Metropolitan Area



As shown in Table 17 the dissimilarity indices for the Boston metropolitan area, using census tracts, are 71.79 for African- and European-Americans and 64.40 for Hispanic and European-Americans, and 48.28 for Asian-Americans. In many of the comparisons, lower-income members of one group are more segregated from their lower income European-American counterparts than are higher-income members of the same group from their higher-income European-American counterparts. This is illustrated graphically in the bar chart on Table 17. We see here that the income effect is fairly strict in the case of African- and Asian-Americans -- the bars slope down from left to right, but it is not strict for Hispanics. What the bar chart also makes clear is that only at the very highest income levels, households earning over 1.5 times the median income, do the segregation indices fall below 60 for African-Americans and Hispanics.

Table 18 shows the race dissimilarity indices of owner-occupied housing units for the Boston area based on 1990 census data. By comparing these data to those in Table 17 we can come to some tentative conclusions about the trends in segregation. Those who are interested in why the conclusions from such a comparison can only be tentative should read the discussion in the "Definitions and Technical Notes" of this report.

Table 18

Owner-Occupied Housing Units and Purchases
Race/Ethnicity Segregation Indices by Census Tract
Boston Metropolitan Area, 1990 and 1993 to 1998

	Race/ethnicity Segregation Indices					
	African-/European-American		Hispanic/European-American		Asian-/European-American	
	Units, 1990	Purchases	Units, 1990	Purchases	Units, 1990	Purchases
Metropolitan Area	72.52	71.79	51.41	64.40	47.48	48.28
Outside Boston	52.78	55.97	47.02	58.31	46.41	47.89
Boston	85.11	77.08	55.80	66.84	52.31	49.09

Source: U.S. Census Bureau 1990, Author's Calculations

The indices show that the current racial distribution of home buying is reproducing a pre-existing pattern. The index for African-Americans is 72.52 for the metropolitan area as a whole, very close to the home buyer index of 71.79. For Asian-Americans the index for housing units in 1990 was 47.48, which is very close to the home buyer index of 48.28. For Hispanics the housing unit index was 51.41, which is lower than the index for home buyers of 64.40, indicating that Hispanic home owners may have become more segregated from European-Americans during the 1990's. This trend for Hispanics is borne out both within Boston and in its surrounding cities and towns: the owner index in 1990 in Boston was 55.8 and the home buyer index is 66.84; outside of Boston the owner index was 47.02 and the home buyer index is 58.31.

Table 19 shows the extent to which people of different incomes, but of the same race, are buying in different census tracts. Looking only at European-Americans we see that the dissimilarity index for low-income households, those earning less than or equal to 60% ($36,000 in 1998) of

the metropolitan area's median income, in comparison to upper-income households, those earning more than 150% of the median ($90,000 in 1998), is 53.51 overall. In the cities and towns outside of Boston the index is 53.32. **This means that the lowest-income European-Americans are as segregated from very high income European-Americans as African-Americans are segregated from European-Americans in the cities and towns outside Boston**. In addition, income segregation among European-American home buyers involves far more families. In the 1993 to 1998 period 15,813 European-Americans earning 60% or less than the median income bought homes outside Boston, but only 3,678 African-Americans did so. Using the dissimilarity index as a measure of the percent of people who would have had to have bought a home in a different census tract, over four times as many low income European-Americans would have had to have bought elsewhere to achieve income integration with very high income home buyers than African-Americans would have had to have bought elsewhere to achieve racial integration with European-Americans.

Table 19

Home Buyer Income Segregation Indices by Census Tract
Boston Metropolitan Area, 1993 - 1998

		Income Segregation Indices			
Location		**Low/Very High**	**Low/Upper-Middle**	**Moderate/U-M***	**Moderate/V-H****
Metropolitan Area	**African-American**	76.73	55.27	37.98	69.52
	Hispanic	80.13	65.63	49.39	76.70
	European-American	53.51	36.46	21.08	50.79
	Asian-American	77.09	61.11	43.47	69.17
	ALL	**58.18**	**41.49**	**23.05**	**53.06**
Outside Boston	**African-American**	70.96	57.17	47.02	66.65
	Hispanic	83.13	69.44	53.02	80.11
	European-American	53.32	35.76	20.77	51.31
	Asian-American	75.71	59.53	42.74	69.08
	ALL	**55.01**	**37.31**	**21.61**	**52.46**
Boston	**African-American**	57.32	34.41	22.42	54.37
	Hispanic	71.37	57.01	44.86	66.88
	European-American	54.60	38.31	19.97	45.43
	Asian-American	72.90	59.33	45.35	61.98
	ALL	**68.06**	**49.25**	**24.30**	**55.42**

* U-M = Upper-Middle
** V-H = Very High

Source: FFIEC, 1993 - 1998, Author's Calculations

Cities and towns analysis

Table 20 shows the race dissimilarity indices of home buyers in the towns and cities around Boston, using the town as a unit of analysis. Because there is more than one census tract in each town, it is natural to expect that the dissimilarity indices would be lower when we analyze the data by town. The table shows this to be the case. But it also shows that this dilution effect is slight. Looking only at the towns and cities surrounding Boston the dissimilarity index between African-Americans and European-Americans is 53.34; for Hispanics it is 53.46; and for Asian-Americans it is 40.44. Looking at the bar showing these data graphically we see that there is a strong income effect for Asian-Americans and Hispanics in their relationship to European-

Americans: the higher the income of each group the lower the segregation index (the bars in the chart slope downwards from left to right). For African-Americans there is very little income effect except for those with the highest incomes: it is only they who are distinctly less segregated from their European-American counterparts than other African-American buyers.

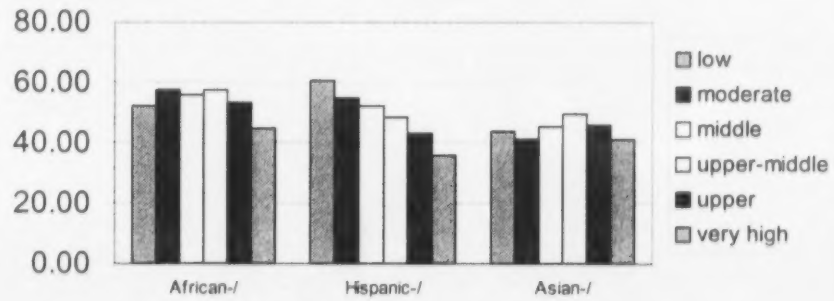
Table 20

Home Buyer Race/Ethnicity Segregation Indeces by City/Town
Boston Metropolitan Area, 1993 - 1998

Location	Applicant income	*Race/Ethnicity Segregation Indeces* African-/ European-American	Hispanic-/ European-American	Asian-/ European-American
Metropolitan Area	low	68.05	60.83	35.10
	moderate	65.76	55.58	35.17
	middle	64.24	53.67	38.84
	upper-middle	62.70	51.64	36.09
	upper	58.48	44.84	38.36
	very high	44.48	37.44	31.80
	ALL	**64.94**	**58.01**	**32.40**
Outside Boston	low	51.89	60.58	43.94
	moderate	57.23	54.70	41.04
	middle	55.80	51.92	45.43
	upper-middle	57.45	48.54	49.57
	upper	53.30	43.08	45.53
	very high	44.79	35.74	41.21
	ALL	**53.34**	**53.46**	**40.44**

Source: FFIEC, 1993 - 1998, Author's Calculations

Race/Segregation Indeces
Towns and Cities Outside Boston



In sum, the segregation indices show that as minorities move out of the city they are moving disproportionately into some towns and cities, and that 40% to 50% of them would have to

buy in another city or town to create an integrated pattern of home buying.

Comparing these home buyer indices to the indices for owner-occupied housing units in 1990 there is evidence that the cities and towns outside of Boston are becoming more segregated (see Table 21). The most significant increase is for Hispanics for whom the difference between the two indices is over 20 points whether we look at the Metropolitan area as a whole or just the cities and towns surrounding Boston: the index for owner-occupied units in 1990 was 37.72 for the Metropolitan Area, while the index for home buyers in the 1993 to 1998 period is 57.99; the index for owner-occupied units in 1990 was 32.79 for the towns and cities surrounding Boston, while the index for home buyers in the 1993 to 1998 period is 53.41.

Table 21

Owner-Occupied Housing Units and Purchases
Race/Ethnicity Segregation Indices by City/Town
Boston Metropolitan Area, 1990 and 1993 to 1998

	Race/ethnicity Segregation Indices					
	African-/European-American		Hispanic/European-American		Asian-/European-American	
	Units, 1990	Purchases	Units, 1990	Purchases	Units, 1990	Purchases
Metropolitan Area	62.54	64.95	37.72	57.99	38.58	43.11
Outside Boston	43.71	53.30	32.79	53.41	39.39	45.31

Source: U.S. Census Bureau, 1990, Author's Calculations

Table 22 shows the income dissimilarity indices of home buyers in the towns and cities around Boston, using the town or city as a unit of analysis. As is the case in the census tract analysis, these data show that even when you look at the data by city and town the lowest-income European-Americans are almost as segregated from their very high income counterparts (index of 48.26) as are African-American buyers from European-American buyers (index 53.34). And, again, achieving income integration throughout cities and towns in the metropolitan area involves far more families than does achieving racial integration.

Table 22

Home Buyer Income Segregation Indices by City and Town
Boston Metropolitan Area, 1993 - 1998

		Income Segregation Indeces			
Location		**Low/Very High**	**Low/Upper-Middle**	**Moderate/U-M***	**Moderate/V-H****
Metropolitan Area	**African-American**	63.45	42.54	26.49	54.90
	Hispanic	57.01	46.05	21.32	51.88
	European-American	44.87	29.36	17.24	43.37
	Asian-American	67.09	48.70	28.84	58.35
	ALL	**49.33**	**34.69**	**19.49**	**45.53**
Outside Boston	**African-American**	56.75	43.63	31.89	53.94
	Hispanic	69.43	52.81	30.03	64.96
	European-American	48.26	30.15	17.08	46.99
	Asian-American	66.48	49.16	30.03	58.26
	ALL	**49.88**	**31.79**	**18.11**	**48.01**

* U-M = Upper-Middle
** V-H = Very High

Source: FFIEC, 1993 - 1998, Author's Calculations

Conclusion

This report has shown a disturbing pattern of home buying in the Boston metropolitan area. African-American and Hispanic home buyers are purchasing homes in a limited number of communities as they begin to gain a foothold in the housing market outside the city of Boston. *This is despite the fact that they are still few in numbers.* The city of Boston is itself highly segregated, and this report shows that this pattern of segregation is replicating itself across the cities and towns outside its boundaries. In addition, this report has shown that families of different incomes are buying in different communities, and that this phenomenon involves far more families than does racial and ethnic segregation.

The consequences of these patterns are that the metropolitan area will remain a patchwork of "have" and "have not" communities that are also divided along the lines of race and ethnicity. These community divisions coincide with educational opportunities, because almost every city and town has its own school district. An immediate concern is that if this pattern of buying continues we will see the development of highly segregated schools, with the dire consequences for the educational opportunity of minority and low-income students that we know such segregation generates. For example, Chelsea's schools are currently over 65% Hispanic, Randolph's schools are 29% African-American and Lynn's schools are 25.3% Hispanic and 15.3% African-American. Further cause for concern is that these data only reflect the distribution of home buyers. We must wait until the 2000 census provides us with an accurate enumeration of renters and their location, but it is very likely that this enumeration will show that the level of segregation of families of different races, ethnicities and incomes is much worse than this report shows.

More optimistically, this report shows that minorities are beginning to buy homes outside of Boston and that many once-exclusive communities are welcoming a few of them into their midst. Minority concentration in a few communities and high-income, exclusive communities are not inevitable. An active promotion of integration by the state, local governments and the real estate industry can alter the patterns described in this report.

Percent African-American and Hispanic Purchases by Census Tract
Boston PMSA, 1993 - 1998

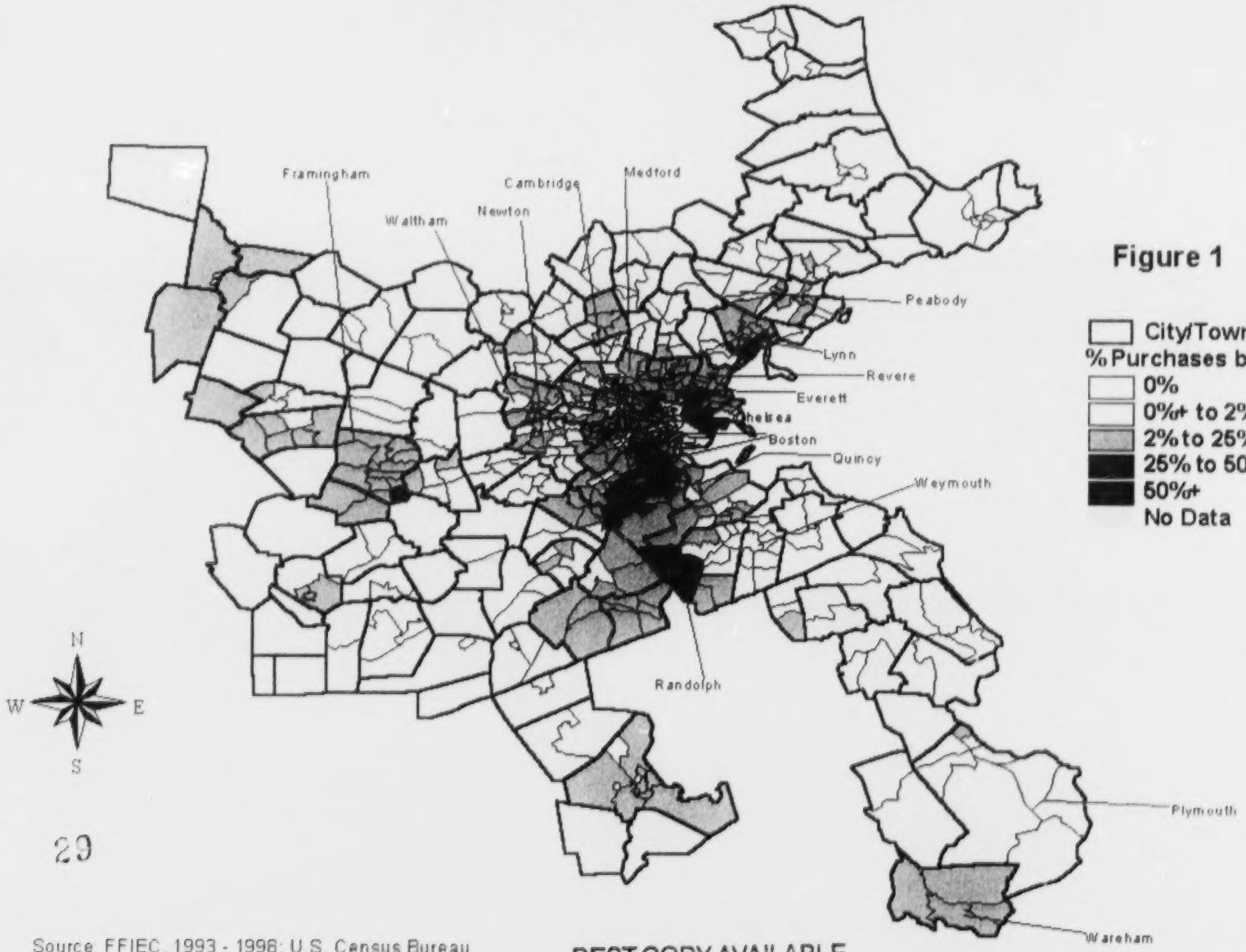


Figure 1

City/Town Boundary
% Purchases by Tract
0%
0%+ to 2%
2% to 25%
25% to 50%
50%+
No Data

29

Source: FFIEC, 1993 - 1998; U.S. Census Bureau

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Percent Asian-American Purchases by Census Tract
Boston PMSA, 1993 - 1998

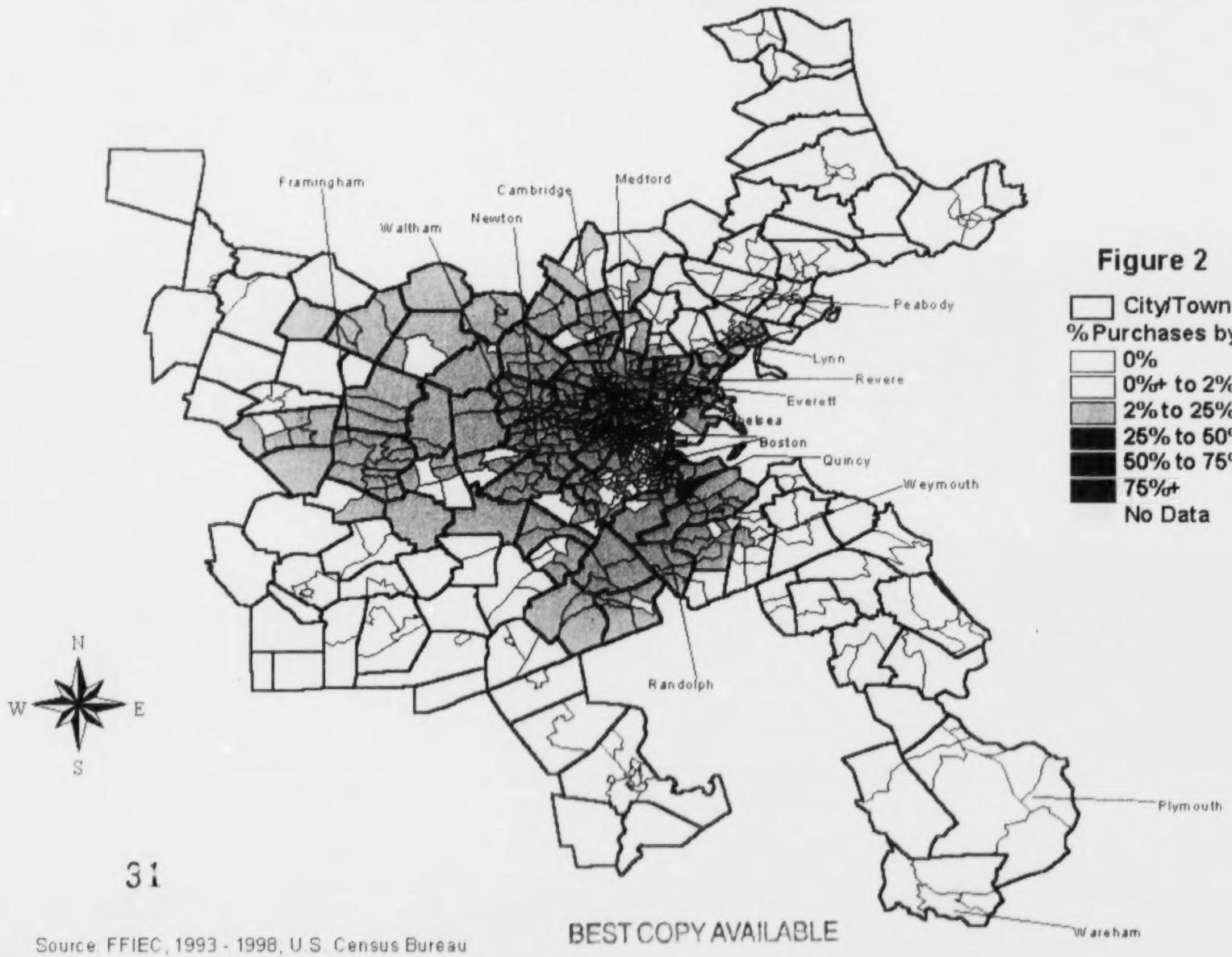

Figure 2

- City/Town Boundary
- % Purchases by Tract
  - 0%
  - 0%+ to 2%
  - 2% to 25%
  - 25% to 50%
  - 50% to 75%
  - 75%+
  - No Data

Source: FFIEC, 1993 - 1998; U.S. Census Bureau

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Percent European-American Purchases by Census Tract
Boston PMSA, 1993 - 1998

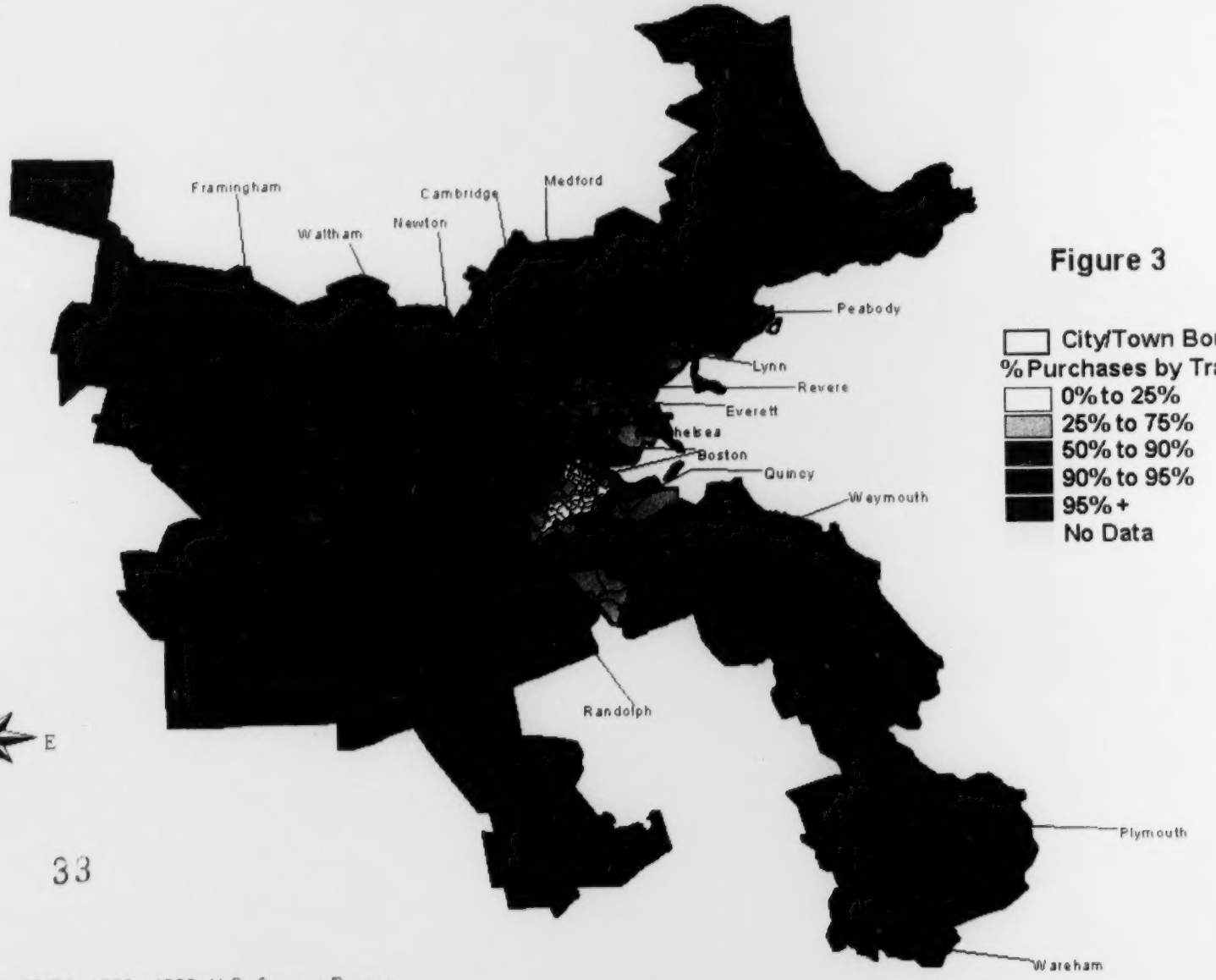

Figure 3

City/Town Boundary
% Purchases by Tract
0% to 25%
25% to 75%
50% to 90%
90% to 95%
95% +
No Data

33

34

Source: FFIEC, 1993 - 1998; U.S. Census Bureau

Definitions and Technical Notes

The Boston PMSA
Boston is part of a Consolidated Metropolitan Statistical Area (CMSA) that includes a number of smaller MSA's and the Boston PMSA (Primary MSA). The geography of this study is restricted to the PMSA and also excludes two census tracts that fall within the PMSA but are in New Hampshire. Some tracts were omitted from the analysis because they did not show up in the spatial database, thus preventing their classification by city and town. As a result, the data cover 698 census tracts, 164 in the City of Boston and another 534 in the surronding towns and cities. Throughout this report I do not refer to the cities and towns outside of Boston as suburbs because many of them are, in their own right, towns and cities whose genesis was not driven by Boston but which now are part of its metropolitan area.

Cities and Towns in the Boston PMSA
In many parts of this report the data are aggregated to the city/town level. There are 127 such cities and towns, including Boston. The boundaries of these cities and towns are taken from the U.S. Bureau of the Census TIGER/Line® 1995 Data. These boundaries were matched with census tract boundaries to generate the aggregated city and town data. As noted in the text there is an almost perfect match between town boundaries and census tract boundaries, the only exception being the tract that straddles Hingham and Hull, which was assigned to Hingham because, spatially, more of the tract is in that town.

To a great extent cities and towns in the Boston PMSA have their own elementary school districts (or elementary and high school districts). There are 14 exceptions shown in the following table:

Towns/cities sharing Elementary School Districts
Boston Metropolitan Area, 1998-1999

Town/city	School District
Blackstone Millville	Blackstone-Milville
Hamilton Wenham	Hamilton-Wenham
Mendon Upton	Mendon-Upton
Bolton Lancaster Stow	Nashoba
Townsend Ashby* Pepperrell* East Pepperell*	North Middlesex
Newbury Rowley Salisbury	Triton
Dighton North Dighton* Rehoboth*	Dighton-Rehoboth

* Not in PMSA

Source: Massachusetts Department of Education
http://www.doe.mass.edu/pic.www/profsl98.htm

Though the data are reported in terms of cities and towns, the results are highly significant for segregation across school districts.

Purchases and owner-occupied housing units
To identify home purchases in the HMDA data I selected all records where the purpose of the loan was a home purchase, where the loan application was approved and where the applicant stated on their application that they intended to occupy the property as their primary residence.

Owner occupied housing units include all units that are owned by the occupants, regardless of the size of the building structure in which they are located. By restricting the analysis to only those loans where the loan purpose is for a home purchase I have restricted the analysis to only those loans to persons purchasing a unit in a building with four or fewer units, except for condominium purchases which are reported as single-family purchases. This is a product of the way the HMDA data are reported. The data will, as a result, underreport purchases because they omit loans to individuals who are buying a building with more than four units in it. In other words, the data omit purchases of large multifamily buildings where the buyer will occupy one unit in the building. Yet the census data will capture such owners in their "owner occupied housing units" category. The HMDA data do include information on purchases of multifamily

buildings, but that information is mixed in with information about refinancing and home improvement loans on such buildings. As a result the data are not in a form that I could use for this analysis.

Race and Ethnicity
The HMDA data has six categories of race/ethnicity: Native American, Asian/Pacific Islander, African-American, Hispanic, White (referred to in this report as European-American), and other. These are mutually exclusive categories. For each application the applicant and the co-applicant identify their race, or it is identified for them by the loan officer helping them fill out the loan application form. For ease of analysis I combined the racial classification of the applicant and co-applicant into one set of categories. In cases where the applicant's race is known and the co-applicant's race is unknown or there is no co-applicant, the race of the applicant dictates the racial category of the application as a whole. In cases where the applicant's and co-applicant's race are anything other than European-American, the race of the applicant dictates the category. Where either the applicant or the co-applicant is European-American and the other is a minority, then I categorized application as a mixed race one. Where the race of the applicant is unknown but that of the co-applicant is known, the race of the co-applicant dictates the racial category of the application.

The U.S. Census classifies everyone it counts by race *and* ethnicity, so that its racial categories of Black, White and Asian/Pacific Islander are not mutually exclusive of the category Hispanic. To avoid double-counting and to isolate what many deem to be the socially significant categories that affect one's experience in the housing market I used the following categories to parallel the categories in the HMDA data: Non-Hispanic White, Non-Hispanic Black, Non-Hispanic Asian and all Hispanics. I refer to the first category as European-American, the second as African-American, the third as Asian-American and the last as Hispanic.

Income
I used HUD's median family income estimates for each year in each metropolitan area to generate the definition for each income category in each metropolitan area. Because the median income within each metropolitan area is different across the six years of the study the upper and lower limits of each category shift from year to year, so that two homebuyers with the same nominal income but buying in different years may end up in different income categories. The table below provides information necessary to calculate the upper and lower limits of the categories used in this study. In all cases the income category is greater than its lower limit and less than or equal to its upper limit.

	Lower limit	*Upper limit*
Low	0%	60%
Moderate	60%	80%
Middle	80%	100%
Upper-middle	100%	120%
Upper	120%	150%
Very High	150%	

In some tables the low- and moderate-income categories are combined and are labelled "low-mod." In these same tables the upper- and very high-income categories are combined and are labelled "u-vh."

Boston PMSA Median Family Income, 1993 to 1998
in Thousands of dollars

1993	1994	1995	1996	1997	1998
$51.2	$51.3	$53.1	$56.5	$59.6	$60.0

Dissimilarity Index

The index used to measure segregation is the dissimilarty index, D. The following is the formula by which it is calculated, using African-American and European-American homebuyers as the two groups being measured:

$$D = 1/2\Sigma \left| b_i - w_i \right|$$

where $b_i = B_i/B$ and B_i is the number of African-American buyers in the unit of analysis (tract or city/town) and B is total number of African-American buyers in the metropolitan area, or some sub-area such as the central city or suburbs, such that $B = \Sigma B_i$;

and, $w_i = W_i/W$ and W_i is the number of European-American buyers in the unit of analysis (tract or city/town) and B is total number of European-American buyers in the metropolitan area, or some sub-area such as the central city or suburbs, such that $W = \Sigma W_i$.

Comparing Census data and HMDA data

Census data on the race and ethnicity of owners of homes provide information about the 1990 stock of owner-occupied housing units. The HMDA data provide information about the flow of buyers of different races into or within a town's owner-occupied housing units. As a result a comparison between the two is a comparison between "stock" data and "flow" data. The meaning of this comparison is limited -- it simply indicates whether buyers are more less segregated from each other in the mid-'90s than were homeowners segregated from each other in 1990. Most importantly, a comparison of the two indices does not allow one to say whether segregation is increasing or decreasing in the Boston metropolitan area. For this we need additional information on:

1) the extent to which minorities are disproportionately flowing into the communities that were already disproportionately minority in 1990;
2) the racial and ethnic distribution of sellers leaving each community in the study.

We do have the first set of information and Table 5c provides rudimentary information about the communities in which minorities are buying. But we do not have seller information. Does this mean we cannot draw any conclusions about the direction in which the level of segregation in Boston and its surrounding cities and towns is going? We can, but only by making some assumptions. Table 5c shows that minority groups are concentrating their purchases in cities and towns in which they already had an above-

average homeownership presence in 1990. (The low percentage of Hispanics buying in above-average Hispanic cities and towns has already been explained in the text). Such concentration, accompanied by a segregated pattern of buying whereby minorities, especially African-Americans and Hispanics, are buying in communities where European-Americans are underrepresented as buyers would lead one to expect an increase in segregation if the home buying distribution is more segregated than the ownership distribution in 1990. Such an expectation would be correct if either of the following to conditions exist:

1) minority and European-American owners in these communities are leaving them at the same rate, or
2) if European-Americans are leaving communities where minorities are concentrating themselves at a higher rate than their minority counterparts.

We cannot know the level of segregation in the current housing stock if the outflow rates from the communities in the study do not conform to either of these conditions.